

Application No. 10/630,478
Amtd. Dated May 9, 2006
Reply to Office Action of January 9, 2006

REMARKS/ARGUMENTS

1. Remarks on the Amendments

The Specification has been amended to correct a typographic error.

Claims 1, 2, 5, 8-10, 12-13, and 16 have been amended to more specifically define Applicants' claimed invention.

New Claim 25 has been added.

Antecedent basis for the amendment can be found in the claims and the Specification as filed. Applicants respectfully submit no new matter has been introduced by the amendments.

2. Response to the Rejection of Claims 1-5, 8-17, 19-21, and 23-24 Based Upon 35 U.S.C. §103(a)

Claims 1-5, 8-17, 19-21, and 23-24, stand rejected under 35 USC §103(a) as being unpatentable over Porter et al (US Patent No. 6,887,077) in view of Lorenzi (2002/0094508). This rejection is respectfully traversed by the amendment.

Claims 1, 12, and 21 are independent claims, and Claims 2-5, 8-11, 13-17, 19-20 and 23-24 are dependent claims of Claims 1, 12, and 21, respectively.

The applicable case law for a rejection under 35 U.S.C. §103 (a) has been discussed in the response to the first Office Action. In the interests of brevity, Applicants request the Examiner to consider that these materials are incorporated herein by reference.

(1) With regard to the amended Claim 1, Applicants submit that nothing in the art of record teaches or suggests the subject matter positively recited in amended Claim 1.

More specifically, Applicants' claimed method requires initially creating an initial osseotomy site that has a first diameter substantially smaller than an outer diameter

Application No. 10/630,478
Amdt. Dated May 9, 2006
Reply to Office Action of January 9, 2006

of the dental implant; then expanding the initial osseotomy site laterally using a first expander, to obtain an once expanded osseotomy site that has a second diameter of about 0.2 to about 0.5 mm larger than the first diameter of the initial osseotomy site, and to form grooves and threads on the interior wall of the once expanded osseotomy site; and subsequently, further expand the once expanded osseotomy site laterally from about 0.6 mm to about 1.2 mm to a final diameter to obtain a twice expanded osseotomy site that has a complementary geometry to the dental implant, but grooves and threads on an interior wall of the twice expanded osseotomy site are uniformly narrower than outer diameters of complementary elements of the dental implant.

The Examiner states that Applicant's argument in the Response dated November 23, 2006 is not commensurate with the claim language of the amended Claim 1 in said Response. Claim 1 in the instant response has been further amended to more distinctly define Applicants' claimed invention. Applicants submits that Porter et al fail to teach the above recited method steps of Applicants' claimed invention, and the bone expansion and bone compression achieved using the instant method.

As pointed out in the Applicants' Response dated November 23, 2005, Porter et al teach away from Applicant's claimed method.

Porter et al teach using shaping drill (30) to remove bone tissues from the pilot hole to create a larger bore which already mimics the minor diameter of the implant, prior to applying their compression tap (50) (Column 5, lines 1-3 and 26-43, Column 4, lines 53-55, and Column 3, lines 38-65 of the reference).

Porter et al's method does not provide an osseotomy site that has grooves and threads on an interior wall uniformly narrower than outer diameters of complementary elements of said dental implant. Furthermore, Porter et al's method results in lesser bone density around the site because of the bone removal.

Applicants' claimed method requires initially creating an initial osseotomy site that has a first diameter substantially smaller than an outer diameter of the dental implant; then relies on the expanders to substantially expand the diameter of the initial osseotomy site, to obtain an once expanded osseotomy site, and subsequently twice

Application No. 10/630,478
Amdt. Dated May 9, 2006
Reply to Office Action of January 9, 2006

expanded expended osseotomy site. The expanded osseotomy site obtained by the instant method has substantially higher bone density.

Therefore, Porter et al fail to teach Applicants' claimed method.

Porter et al's defects are not overcome by Lorenzi.

A combination of Lorenzi's markings and interface for wrench with Porter et al.'s compression tap, as suggested by the Examiner, does not result in Applicant's claimed method defined by amended Claim 1.

Therefore, based on the prior art's teachings, one skilled in the art would not be motivated to combine the references, in the manner suggested by the Examiner, to obtain Applicants' claimed invention.

(2) With regard to the amended Claim 12, Porter et al teach away from Applicants' claimed invention.

More specifically, Porter et al teach using a series of the compression tap (50) to cause the female thread on the wall of the bore including the cortical level, and particularly teach this reduces the chance for fracture of the cortical plates in the region (Column 4, lines 60-64 of the reference). Therefore, Porter et al teach treating the cortical plate and the less dense bone tissues underneath the cortical plate in the same way. This is fundamentally different from Applicants' claimed method defined by amended Claim 12.

Applicants' claimed method requires applying an additional drilling to extend an entrance of said osseotomy site only at a cortical level to a diameter complementary to an outer diameter of said dental implant. This is to be used in the case of hard bone crest or placement of large dental implants. This additional step only extends the entrance of the initial osseotomy site at the cortical level, and the bone tissues of the initial osseotomy site underneath the cortical level are expanded and compressed by the threaded expanders.

Porter et al and Lorenzi fail to teach to apply additional drilling to extend the entrance only at a cortical level. One of the ordinary skilled in the art would be motivated to combine the references to obtain Applicants' claimed invention, because

Application No. 10/630,478
Amdt. Dated May 9, 2006
Reply to Office Action of January 9, 2006

the combination, in the manner suggested by the Examiner, would not result in Applicants' claimed method steps.

Applicants respectfully directs the Examiner's attention to the Interview Summary, wherein the Examiner acknowledges that none of the references in the record shows expanding and compressing only below the cortical bone, and Claim 12 will be further amended to bring out this feature more clearly. In the further amended Claim 12, steps (a) and (b) clearly define the difference in diameter between the initial osseotomy site and the extended entrance at cortical level. Therefore, the expansion by the expanders can only occur below the cortical level.

(3) With regard to Claim 21, Applicant maintains that nothing in the art of record teaches or suggests the subject matters positively recited in Claim 21.

Porter et al fail to teach Applicants' claimed top, shaft having depth markings and the transition.

More importantly, Porter et al fail to teach the threaded expansion tip of each expander of the kit has a same length and a substantially same threaded structure to the threaded structure of the dental implant, but a narrower outer diameter than the outer diameter of the dental implant. It is important to understand that it is the combination of the same length of the threaded expansion tips and the depth markings, which enables the dentist to achieve sequential radial expansions of the osseotomy site using the instant expanders, and ensures the subsequent expander(s) reinforcing the thread pattern formed by the previous expander(s).

Porter et al's defects are not overcome by Lorenzi.

Lorenzi fails to teach Applicants' claimed the threaded expansion tip of each expander of the kit has a same length and a substantially same threaded structure to the threaded structure of the dental implant. Lorenzi merely uses the rotary osteotome to widen the site, but does not intend to create a thread pattern in the osseotomy site complementary to the implant.

Furthermore, Lorenzi fails to teach Applicants' claimed threaded expansion tip of each expander having a narrower outer diameter than the outer diameter of the

Application No. 10/630,478
Amtd. Dated May 9, 2006
Reply to Office Action of January 9, 2006

dental implant. Instead, Lorenzi teaches using his osteotome to obtain a diameter corresponding to that of the implant cylinder.

Based on the prior art's teachings, one skilled in the art would not be motivated to combine the references, in the manner suggested by the Examiner, to obtain Applicants' claimed invention.

Based on the above analysis, Applicants maintain that Applicants' claimed invention defined by amended Claims 1, 12 and 21 is not obvious in view of the art of the record.

(4) With regard to Claims 2-5, 8-11, 13-17, 19-20 and 23-24, as described above, these claims are dependent upon Independent Claims 1, 12, and 21, respectively. Under the principles of 35 U.S.C. §112, 4th paragraph, all of the limitations of each independent claim are recited in its respective dependent claims. As described above, independent Claims 1 and 12 are unobvious in view of the prior art of record, as such Claims 2-5, 8-11, 13-17, 19-20 and 23-24, are submitted as being allowable over the art of record.

Accordingly, Applicant respectfully requests withdrawal of the rejection of Claims 1-5, 8-17, 19-21, and 23-24, based upon 35 U.S.C. §103(a).

It is respectfully submitted that Claims 1-5, 8-17, 19-21 and 23-24, the pending claims, are now in condition for allowance and such action is respectfully requested.

Application No. 10/630,478
Amdt. Dated May 9, 2006
Reply to Office Action of January 9, 2006

Applicants' Agent respectfully requests direct telephone communication from the Examiner with a view toward any further action deemed necessary to place the application in final condition for allowance.

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